

## REMARKS

After entry of this amendment, claims 1-6, 10-11, 13-25, and 27-37 remain pending. In the present Office Action, claim 19 was objected to. Claims 1-19 and 31-37 were rejected under 35 U.S.C. § 101. Claims 1, 20, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by Damani et al., "Fault-Tolerant Distributed Simulation" ("Damani"). Claims 1, 6-12, 20-21, and 25-31 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ulrich et al., U.S. Patent No. 5,466,200 ("Ulrich"). Claims 13-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by Robbins et al., U.S. Patent No. 5,973,638 ("Robbins"). Claims 2-5, 22-24, and 32-37 rejected under 35 U.S.C. § 103(a) as being unpatentable over Damani in view of Stallmo et al., U.S. Patent No. 6,289,398 ("Stallmo"). Applicants respectfully traverse these rejections and request reconsideration.

### Claims 1-6, 10-11, 20-25, and 27-37

Applicants respectfully submit that each of claims 1-6, 10-11, 20-25, and 27-37 recite combinations of features not taught or suggested in the cited art. For example, claim 1 recites a combination of features including: "at least one logging node of the plurality of nodes is configured to log the message packets in one or more log files on at least one non-volatile storage medium during the simulation, wherein the at least one logging node is separate from nodes targeted by the message packets".

The Office Action asserts that Damani teaches message logging at section 2, paragraph 2, lines 1-5. These teachings are: "To avoid both synchronization and domino effect, some schemes also save the received messages on stable storage. This is called *message logging*. After a failure, a process restores its last checkpoint and replays the logged messages" (emphasis in original). While Damani does teach the general concept of message logging, Damani is silent on which node does the message logging. If anything, the last sentence quoted from Damani above implies that the process that is performing the simulation does the logging for that process. Thus, Damani does not teach or suggest "the at least one logging node is separate from nodes targeted by the message packets".

The Office Action also asserts that Ulrich teaches the features of claim 1. Specifically, the Office Action asserts that Ulrich's storing of message packets in memory for access by the CPU comprises message logging. Applicants respectfully disagree. Furthermore, Applicants submit that Ulrich's storing of messages in memory does not teach or suggest "log the message packets in one or more log files on at least one non-volatile storage medium" as recited in claim 1. Furthermore, Ulrich's "nodes" are exercise machines, and the "simulation" of Ulrich is related to providing a simulated environment for the users of the exercise machines. This has nothing to do with simulating a system under test, as recited in claim 1.

For at least all of the above stated reasons, Applicants submit that claim 1 is patentable over the cited art. Claims 2-6 and 10-11, being dependent from claim 1, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 2-6 and 10-11 recite additional combinations of features not taught or suggested in the cited art.

Claim 20 recites a combination of features including: "logging the message packets in one or more log files on at least one non-volatile storage medium during the simulation by at least one logging node of the plurality of nodes, wherein the at least one logging node is separate from nodes targeted by the message packets". The same teachings of Damani and Ulrich highlighted above with regard to claim 1 are alleged to teach the features of claim 20. Applicants respectfully submit that Damani and Ulrich do not teach or suggest the above highlighted features, either. For at least the above stated reasons, Applicants submit that claim 20 is patentable over the cited art. Claims 21-25 and 27-30, being dependent from claim 20, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 21-25 and 27-30 recite additional combinations of features not taught or suggested in the cited art.

Claim 31 recites a combination of features including: "instructions which, when executed on a logging node separate from simulation nodes in a distributed simulation

system, log, in one or more log files on at least one non-volatile storage medium, message packets transmitted during a simulation between a plurality of simulation nodes". The same teachings of Damani and Ulrich highlighted above with regard to claim 1 are alleged to teach the features of claim 31. Applicants respectfully submit that Damani and Ulrich do not teach or suggest the above highlighted features, either. For at least the above stated reasons, Applicants submit that claim 31 is patentable over the cited art. Claims 32-37, being dependent from claim 31, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 32-37 recite additional combinations of features not taught or suggested in the cited art.

#### Claims 13-19

Applicants respectfully submit that each of claims 13-19 recites a combination of features not taught or suggested in the cited art. For example, claim 13 recites a combination of features including: "read first message packets from a log file, wherein the first message packets were transmitted to a previous node simulating the portion in a preceding simulation ... wherein the instructions, when executed, read second message packets from the log file, wherein the second message packets were sourced by the previous node simulating the portion in the preceding simulation".

The Office Action asserts that Robbins teaches the above highlighted features. For example, the Office Action asserts that Robbins teaches "read first message packets from a log file, wherein the first message packets were transmitted to a previous node simulating the portion in a preceding simulation" at col. 19, lines 32-40. However, these teachings are "The test signals from the simulator 4 are directed into the smart antenna 6, where they are processed. The output of the smart antenna unit, in the form of digital data intended to replicate the multi-channel signals received at different sensors, is fed to the measuring device 8 of the linked signal source/measuring device. There the output is compared to the reference signal and control unit input parameters to verify the performance of the smart antenna 6." These teachings having nothing to do with "read first message packets from a log file, wherein the first message packets were transmitted to a previous node simulating the portion in a preceding simulation". Furthermore, the

transmission of test signals through the air to an antenna, and sampling the antenna output for comparison to the reference signal from which the test signals were generated has nothing to do with exchanging message packets in a distributed simulation system.

The Office Action also asserts that "the reference output by Robbins may have been obtained through prior simulation" (Office Action, page 13, lines 13-14).

Applicants respectfully submit that assumptions about how Robbins may have obtained the reference output are insufficient to support anticipation of claim 13 by Robbins. Rather, anticipation requires that a reference teach EACH and EVERY FEATURE of a claim.

Additionally, there is no reason to suspect that Robbins obtains his reference output through prior simulation. Rather, Robbins teaches "The signal source 2 transmits the reference signal to the multi-channel simulator 4" (Robbins, col. 19, lines 24-25). Accordingly, the signal source 2 generates the reference signal. The cited portions of Robbins are silent on how the signal source generates the reference signal.

The Office Action asserts that "read second message packets from the log file, wherein the second message packets were sourced by the previous node simulating the portion in the preceding simulation" is taught in Robbins at col. 18, lines 59-67 and col. 19, lines 1-15. However, these teachings are "After the signals are conditioned by the simulator 4, these test signals are transmitted to the smart antenna receiver assembly 6. The test signals are the analog signals representing the reception characteristics of a multiple element array antenna. The smart antenna receives the simulated signals and proceeds to process the signals in the same fashion in which it would process any communication reception. The output of the smart antenna is a digital stream of data that represents the information signal along with other injected and derived components. A measuring device 8 is connected to the smart antenna output to read the digital data. There are existing measurement devices that can interpret the digital data and calculate the smart antenna output signals including the geo-location of the simulated user. The reference source signals, as modified by the simulator, are then compared to the smart

antenna output data. The measurement device, or the control unit, or a combination of the two units then compares the data to verify the performance." These teachings have nothing to do with the above highlighted features. Nothing in these teachings has anything even remotely related to, for example, "the second message packets were sourced by the previous node simulating the portion in the preceding simulation" as recited in claim 13.

For at least all of the above stated reasons, Applicants respectfully submit that claim 13 is patentable over the cited art. Claims 14-19, being dependent from claim 13, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 14-19 recite additional combinations of features not taught or suggested in the cited art.

Applicants note that the Office Action asserts an interpretation of claim 13 (see Office Action, page 6, second paragraph. To the extent that this interpretation requires the same node to simulate the portion of the system under test AND execute the instructions described in claim 13, Applicants respectfully disagree. Claim 13 makes no statement about where the instructions are to be executed. In various implementations, for example, the instructions may be executed on a hub (Fig. 1), a distributed control node (DCN -- Fig. 3), or multiple nodes (Fig. 2). Accordingly, any device configured to execute instructions may execute the instructions on the computer readable medium recited in claim 13. Furthermore, the interpretation fails to include the term "message packet" which is used throughout claim 13 and has a specific meaning for communicating between nodes.

#### Claim Objection

Claim 19 was objected to under 37 C.F.R. § 1.75(c) as failing to further limit the claim on which it depends. The objection to claim 19 relies on the Office Action's unduly narrow interpretation of claim 13. When claim 13 is properly interpreted as not requiring the first node to execute the instructions, as highlighted above, Applicants submit that claim 19 is in proper dependent form.

### Section 101 Rejection

The present Office Action, in the section 101 rejection, asserts that claims 1-19 and 31-37 have merely claimed software and non-tangibly embodied content. Applicants respectfully disagree, at least with respect to some of the claims. However, Applicants have clarified claims 1-19 and 31-37, and respectfully submit that the claims, as amended, are statutory.

With regard to claim 1, the Office Action asserts that a node can be only software and thus that claim 1 is not tangibly embodied. The Office Action suggests amending claim 1 to having a physical embodiment. Applicants have amended claim one to recite "two or more computer systems configured as a plurality of nodes". Applicants respectfully submit that claim 1 has a physical embodiment, and thus that the rejection is addressed. With regard to claim 13, Applicants have amended the claim to recite "at least one computer readable medium storing the instructions" and thus claim 13 has a physical embodiment.

With regard to claim 31, the Office Action suggests reciting a computer readable medium. Applicants have adopted the suggestion, and respectfully submit that the rejection is addressed.

### Information Disclosure Statements (IDSs)

The Office Action stated that copies of the non-patent documents cited in the IDS filed 2/13/2002 were not included. Applicants are in possession of a date-stamped postcard evidencing that such references were included. However, Applicants are filing herewith an IDS citing additional references. Accordingly, Applicants are including another copy of the references not considered from the 2/13/2002 IDS in the IDS filed herewith. Additionally, Applicants note that an IDS was filed 7/21/2005 (shortly after the mailing date of the present Office Action). Applicants respectfully request consideration of that IDS as well.

### CONCLUSION

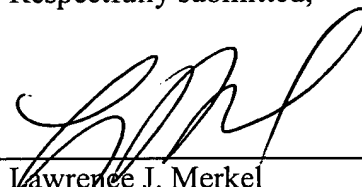
Applicants submit that the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-03600/LJM.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Request for Approval of Drawing Changes
- ☐ Notice of Change of Address
- ☒ Please debit the above deposit account in the amount of \$180 for fees (\$180 IDS Fee).
- ☒ Other: IDS

Respectfully submitted,



Lawrence J. Merkel  
Reg. No. 41,191  
AGENT FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.  
P.O. Box 398  
Austin, TX 78767-0398  
Phone: (512) 853-8800

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